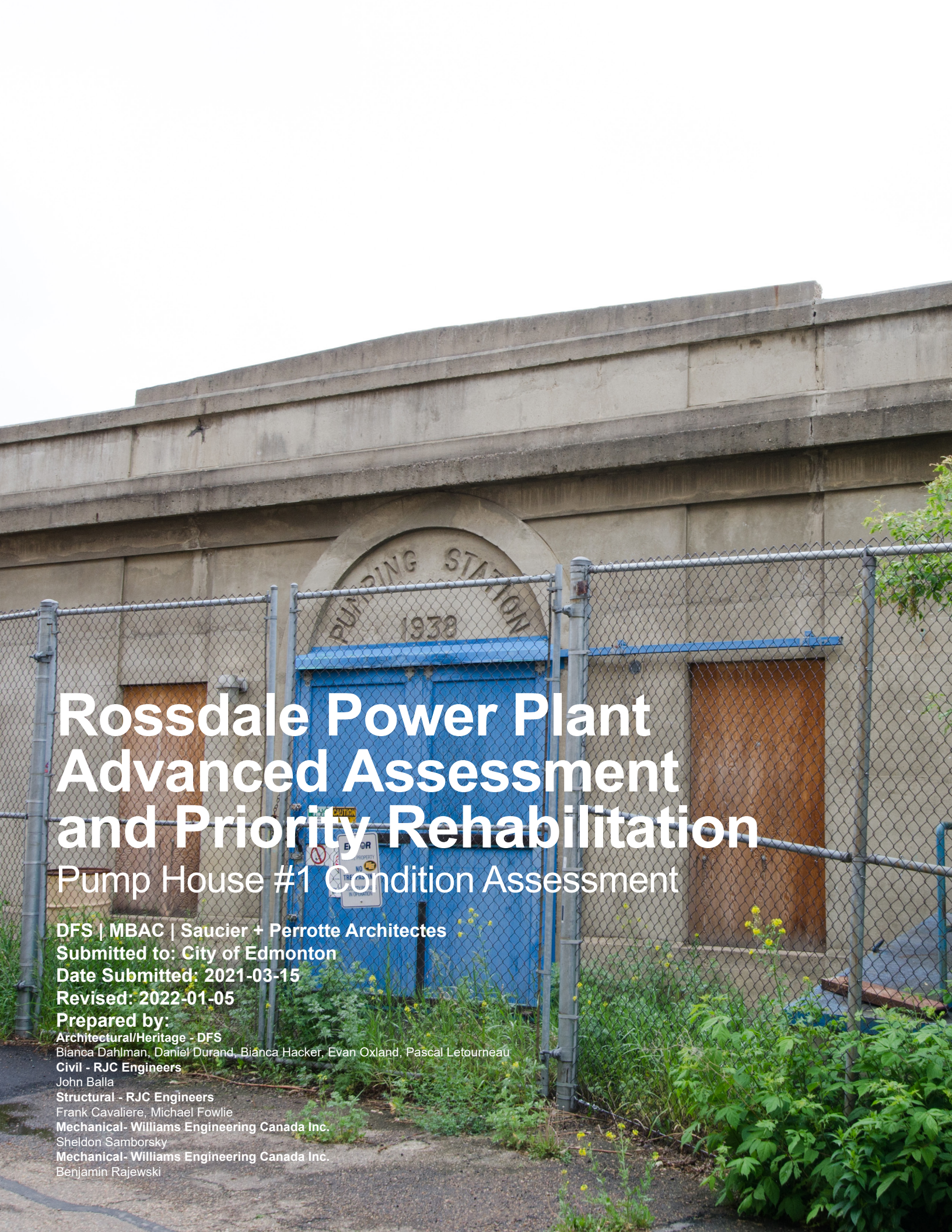


Rossdale Power Plant Advanced Assessment and Priority Rehabilitation

Pump House #1 Condition Assessment

DFS | MBAC | Saucier + Perrotte Architectes
Submitted to: City of Edmonton
Date Submitted: 2021-03-15
Revised: 2022-01-05
Prepared by:
Architectural/Heritage - DFS
Bianca Dahlman, Daniel Durand, Bianca Hacker, Evan Oxland, Pascal Letourneau
Civil - RJC Engineers
John Balla
Structural - RJC Engineers
Frank Cavaliere, Michael Fowlie
Mechanical- Williams Engineering Canada Inc.
Sheldon Samborsky
Mechanical- Williams Engineering Canada Inc.
Benjamin Rajewski

Traditional Land Acknowledgement

We respectfully acknowledge that Edmonton is known by the nêhiyawak (the Cree people) as ᐊᒥᐢᑲᐧᒋᐋᐧᐢᑲᐦᐃᑲᐣ (amiskwacîwâskahikan). It is a traditional gathering place for a diverse group of Indigenous peoples, including the nêhiyaw (Cree), Tsuut'ina, Niitsitapi (Blackfoot), Métis, Nakota Sioux, Haudenosaunee (Iroquois), Dene, Suliné, Anishinaabe/Ojibway/Saulteaux, Inuit, and many others who continue to make this place their home and whose histories, languages, and cultures continue to influence our vibrant community today. The Rossdale Power Plant lies on lands governed by Treaty 6, which encompasses 17 First Nations. In addition, it is acknowledged that the Rossdale site has been a gathering place of Indigenous peoples for thousands of years, and that it has special association with the Traditional Burial Ground and Fort Edmonton Cemetery nearby. The city of Edmonton owes its strength and vibrancy to these lands and the diverse Indigenous peoples whose ancestors' footsteps have marked this territory.

Settlers from around the world who continue to be welcomed here and call Edmonton home, further contribute to the City's resilience and diversity. Together we call upon all our collective honoured traditions and spirits to work in building a great city for today and future generations. We would like to thank the Indigenous communities who participated in The Rivers Crossing Business Plan & Heritage Interpretation Plan engagement sessions. The contributions provided were greatly appreciated and it is hoped that the knowledges and stories shared are reflected here.

Project Team

Owner/Client
The City of Edmonton

Past Owner
EPCOR

Heritage Authority
Alberta Culture, Multiculturalism and Status of Women

Prime Consultant/Architectural
the marc boutin architectural collaborative inc.

Heritage Conservation
DFS Inc. Architecture & Design

Architectural/Adaptive Reuse Planning
Saucier + Perrotte Architectes

Structural & Civil Engineering
Read Jones Christoffersen Ltd. Engineers

Mechanical & Electrical Engineering
Williams Engineering Canada

Code Consulting
Jensen Hughes

Indigenous Inclusion & Engagement Consulting
Naheyawin

Acknowledgements

The consultant team wishes to thank the City of Edmonton, EPCOR, and the Government of Alberta team members for their stewardship of the project and for their generous contributions and insights concerning the history of the site and the Rossdale Power Plant.

Table of Contents

1.0 Executive Summary & Introduction

This report is broken up in sections as highlighted in the Table of Contents above. A thorough physical visual conditions assessment occurred in the autumn of 2020 and early winter 2021. This assessment was limited due to a variety of issues surrounding access, including hazardous confined spaces with standing water, limitations of owner supervision, and Covid-19 related broader site-access restrictions.

A glossary of deterioration conditions was created after initial assessment, which allowed for mapping via smart .pdf technology, in this case Bluebeam. Conditions were mapped using line drawings prepared for the Heritage Building Record. The advantage is that condition markups are spatially scaled providing quantities for future estimation, it also spatially locates them to help support future construction packages.

Generally speaking, all surfaces, interior and exterior, are dirty, soiled, coatings failing, and all exposed raw metal exhibiting passivated corrosion to one degree or another. These specific deterioration patterns are not called out in the attached conditions mapping, Section 4.0, because they are universal — and would only serve to confuse the eye in understanding more important conditions present. Exceptions include calling out unique types of soiling, such as river water sediments that have deposited soil in the lowest level of Pump House #1 dry-well.

All exposed raw metal surfaces in interior and exterior, including mechanical systems and machinery, are exhibiting paint failure and passivated surficial corrosion. The notable exception to this rule is the basement where free flowing water and salts are causing active corrosion and loss of section.

All included photographs were taken by DFS, often through the use of MiraCAD's proprietary cloud-based point-cloud and high-resolution photography software named Cloud360. Original building drawings originate from EPCOR, accessed through their RGS Drawing Database.

2.0 Conditions Assessment
2.1 Civil / Landscape

2.1.1 Introduction
RJC has completed a Civil condition assessment on the Rossdale Power Plant site located in downtown Edmonton, Alberta. The following report includes a summary of the documentation available for review, the site conditions observed and what can be expected for the site going forward.

2.1.2 Documentation Review
RJC reviewed both the available drawings and reports provided by the City of Edmonton.

Limited civil drawings were available for review. In general, they were partial sets for the buildings and did not always have the version noted so it is possible they may not reflect what got built. The drawings did contain some information regarding the Grading and utilities but, in general, the information was limited and incomplete. As well, some of the areas appeared different than the structure observed on site, which is likely the result of modifications to the Plant over time.

Furthermore, Design Loads and standards have changed considerably especially involving storm run off the need for treatment or flow suppression will need to be confirmed as part of reuse of the building.

Previous condition assessments and other related reports were also reviewed. In general, the reports noted the condition within the last 15 years and noted conditions similar what RJC observed.

- Asphalt settlement, and repairs over the site through the life cycle of the paved parking areas and on site roadways.
- Erosion of river bank around pump houses due to inherently unstable river bank conditions and storm water outlets not having effective energy dissipation.

2.1.3 Site Assessment
RJC completed a visual condition assessment of the below noted buildings in late 2020 and early 2021. The condition of the site is consistent with the age and use as industrial buildings. The site has been modified over time to accommodate changes in surrounding site use. This has resulted in conditions that are varied, and modified, as is typical of industrial sites.

The reviews were limited to visual observations of accessible areas. No testing or dismantling of finishes occurred during our evaluation. A design review was not part of the scope of this project and the review is preliminary in nature. When the project proceeds into detailed design, detailed checks and further site investigations will likely be required to confirm the conditions and capacities of the systems, as well as repairs may be required to make areas useable for intended use.

The site, split into two areas (Surface works, and Utilities) reviewed are as follows:

2.1.4 Surface Works
The surfaces works is comprised of two aspects, the site grading and overall storm water management, and the Asphalt and flat works. The following outlines the site reviews of those aspects:

2.1.5 Site Grading and Storm Water Management
The site grading and storm water management was evaluated for the area inside of the fence line of the plant. Storm water leaders were evaluated based on observed conditions from the ground only.

In general, the conditions were observed to permit water to flow to designated catch basins and over land drainage paths. The site was sloped mostly away from the building, however, in some areas there was pooling water and obstructions to flow, localized low points exist where loading varied and around several structures.

Storm water leads from roof drains appear to join the underground system internal to the building and outlet to storm manholes on site. Several of the Roof drains exhibit signs of leaking as water damage can be seen along walls adjacent to some of the storm leads. We were unable to enter any manholes and evaluation of conditions of the underground system is excluded as part of the scope.

Condition

- There are several areas where ponding of water has occurred on the site, and negative drainage around the building caused by settlement of backfill material. The grading appears to be in okay to poor condition.
- Water ingress around foundations has been noted but not to significant effect.
- Storm water roof leaders appear to be in poor to very poor condition.

- Leaks and breakages of pipe have occurred and some sections of the leaders have been replaced with plastic pipe in recent renovations.

Therefore, in general, based on only visual observations, it appears the site grading and storm water systems are in ok to poor condition given its age. Overall the system appears to be performing as intended. No immediately critical structural damages were observed during the assessment, but it is expected some repairs will be required.

At this time, one site investigation is suggested. It is unknown what condition the underground storm system is in, given its age and there is some risk related to what the condition might be. It is recommended a site investigation scoping the underground lines internal to the building be considered to review the condition and determine if they are capable of continued use, or if they should be abandoned and reconstructed.

It is also important to note that the areas which exhibit poor conditions should be repaired as leaving water to sit against the base of walls can cause further deterioration of the surface but also can lead to additional structural issues in the building foundation systems.

2.1.6 Asphalt and Flatworks

On site Asphalt was observed to have major cracking and deterioration indicative of weakened subgrade and extended service life. The asphalt has alligator cracking patterns as well as significant ravelling and patching associated with recent repairs. There is a public access path between the main building and the two pump houses, this asphalt path is showing signs of deterioration due to aging. There have been crack seals applied to the cracks in the path to prevent hazards to public safety.

The concrete landings around entrances and curbs are cracked and spalled, some areas had visible reinforcement that was corroding.

Condition

- Asphalt on the site is in okay to very poor condition. There are several areas that hold water due to reduced subgrade capacity causing cracking and more deterioration.
- Localized low areas around catch basins and settlement of soils around the building and cracking throughout the site.
- Concrete Curbs on the site are in good to poor condition.
- Several of the concrete curbs on site have broken missing pieces, and cracks exposing reinforcement.

Therefore, in general, based on only visual observations, it appears the Asphalt and concrete flatworks are in okay to poor condition. No immediately critical structural damages were observed during the assessment, but it is expected some repairs will be required.

2.1.7 Utilities

The existing site utilities have been updated recently to provide water and sanitary services to the site. Water service from the new plant site and sanitary to join the existing system, these services appear to be operational, no visual inspection of the recent service installation was possible, however, for future design it is advisable to complete a line scoping assessment that will document the conditions and capacity of these utilities.

2.1.8 Conclusion

RJC has completed a condition assessment of the Rossdale Power Plant site located in downtown Edmonton. In general, the condition of the structures varies from poor to okay.

If re-occupied, the systems will need to be evaluated for capacity and condition. Based on the results of those evaluations, repairs and reinforcement of the systems can reasonably be expected in some areas. Those could include, but are not limited to, evaluations and repairs such as:

- Regrading and slope stabilization
- Asphalt replacement including base gravel and possibly subgrade work
- Storm water system upgrades including roof drain repairs and underground system repairs
- General concrete repair or reconstruction and patching, including repair of cracked and spalled concrete
- Utilities expansion for increased service level to match new use cases.

These upgrades are dependent on the future use of the building. Those recommendations are beyond the scope of this report and unknown given the intended use is still an unknown. However, it can reasonably be expected that some changes to the civil systems will be part of the work required.

2.1.9 Limits of Liability

This report is intended to provide a general description of the site and its condition, which may have been apparent at the time of our review. Read Jones Christoffersen Ltd. did not perform any design checks to confirm the adequacy of the systems. They will however be required in some instances during design to confirm the capacity of the systems for the intended uses. This is because only limited drawings were available for review.

The review was limited to visual observations of accessible areas. No testing or dismantling of any coverings was performed. Reviews were made on a random basis with no attempt to review or inspect every element or portion of the building. The intent of the review was to determine areas of visually obvious deterioration and need for repair, and to determine, in a general way, the overall quality and sufficiency of the systems, but not to ascertain the quality or sufficiency of any specific aspect of the systems.

Our comments are not a guarantee nor warranty of any aspect of the condition of the building whatsoever, nor that the building has been built in accordance with the drawings and specifications. Any opinions of probable cost presented by the Consultant are based on incomplete or preliminary information and on factors over which the Consultant has no control. The Consultant does not guarantee the accuracy of these probable costs and shall have no liability where the probable costs are exceeded.

Reports prepared by the Consultant are exclusively for the use and benefit of the Client. They are not for the use or benefit of, nor may they be relied upon by, any other person or entity without written permission of the Consultant.

Above: Abandoned outfall piping from building

Above: Public trail between Pump House 1 and the Low Pressure Plant

2.2 Exterior Architectural

The following section is a description of general conditions noted through the condition assessment of architectural fabric on the exterior of the building. The exterior is generally in good condition with some areas requiring repair to keep the elements out, most notably the compromised/boarded-up windows and the honeycomb concrete of the cornice. There is also one relict pipe and board that should be stabilised on the south-east façade.

2.2.1 Building Entrance

Door: Modifications have led to the original double swinging doors to become one sliding door. Modifications include steel strengthening, likely for security purposes, lock modifications, and rail installation. Vibrant Prussian-blue door paint colour is associated with Edmonton Power Company colours circa 1980-1990 era, and has had multiple campaigns. The most recent coating layer is likely failing in areas because of an improperly prepared substrate. Older seafoam green colour is visible in areas of higher wear.	

2.2.2 Pump House Roof

Roof: Good serviceable condition, will require monitoring and periodic cleaning of leaf litter to avoid bio-growth. Roof access hatch and drain are noticeable on the upper part of the photo, the south end of the roof.	

2.2.3 Pump House Walls

Exterior Surfaces: Graffiti and EPCOR overpaint are scattered across elevations. Photo illustrates the south elevation.	

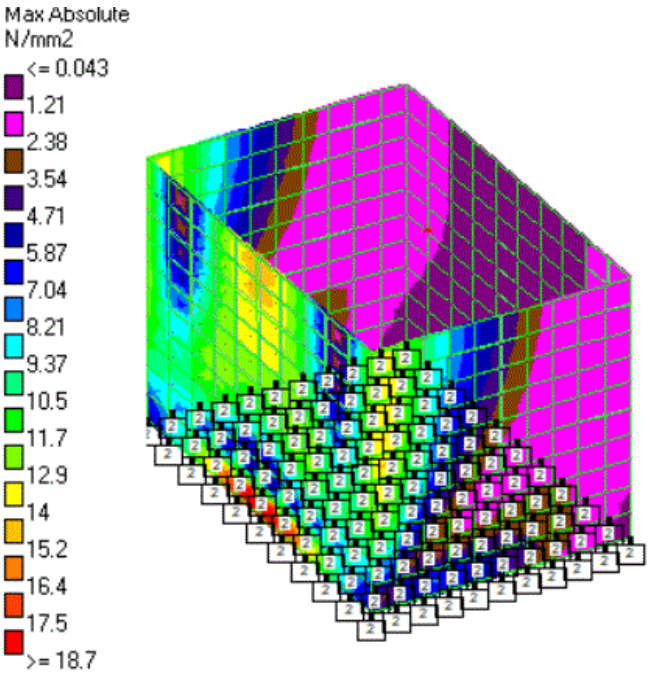
Relict Mechanical Services: Various pipes/ pipe-ends remain from historic mechanical services, some of these have been patched with cementitious materials. Southwest elevation pipes in particular require stabilisation — as seen in photo. Upper photo illustrates pipes reinforced with wood members and metal wire. Lower photo illustrates failed support brackets of larger diameter pipe.

North Elevation Parapet & Cornice: A vertical crack propagates from the westerly pediment termination of the north elevation. Crack radiates across unadorned frieze and cornice banding.	

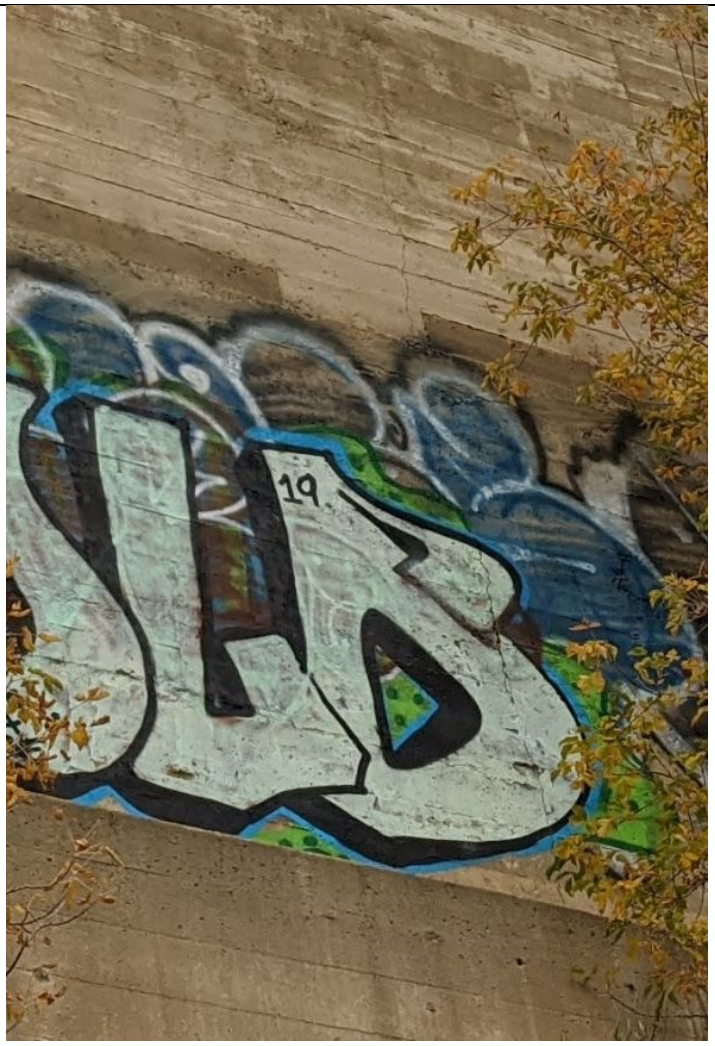
Cornice: Cornice and drip edge has numerous shallowly bedded reinforcement and honeycomb deterioration patterns - likely due to lack of adequate vibration during pouring processes, and shallow placements of reinforcement.	

South Elevation Crack: Vertical propagating crack emanating of what might be two reinforcing ferroconcrete beams. This wall section is thinner than below, based on original design with the travelling water screen room being at Lower Level 1. It is possible that after the design decision sealed up this room (unknown date or specific sequence) and positioned the water screen on the main operating floor the plant gained more usable water storage for their wet well. However, if this originally intended water screen room became used to hold water it is possible that the designed loads could have been exceeded by increased water capacity — leading to later reinforcement with two reinforced concrete beams as below this crack.

The idealised stress contour modelling of a rectangular water tank with max absolute stress of 18.70 N/mm2 is illustrated as below, suggesting if the Screen Washing Room was used as a tank, that the crack could be a natural expansion crack correlating to one of the areas of highest loading[1]:



Note that the locations of highest loading do correlate to crack propagation. Not an active concern as the wet well is no longer being used.



[1] Journal of Advances and Scholarly Researches in Allied Education [JASRAE] (Vol:15/ Issue: 2) DOI: 10.29070/JASRAE

2.2.4 Windows

Windows: All multi-light leaded glass windows have failing glazing putty, numerous broken or missing window lights, and failing sash-caulking. Detailed condition of steel frame, mullions, rails, and operable louvers (including lubrication of movable parts) is unknown, but is assumed to be deficient and requiring service. Full replacement of windows is not required, as they are designed for long serviceable lives, and can be restored in parts.	

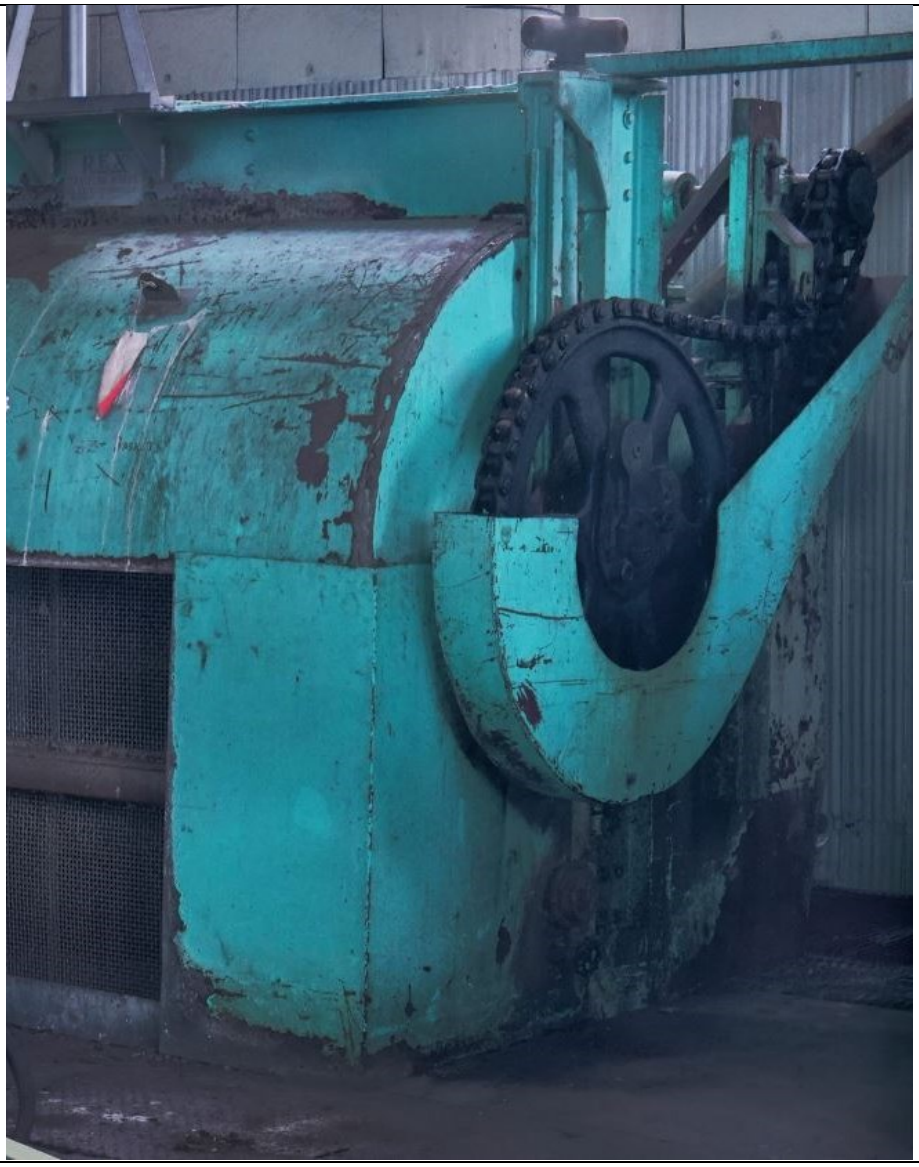
2.3 Interior Architectural

The following section is a description of general conditions noted through the condition assessment of architectural fabric of the building interior. The interior of Pump House #1 is remarkably intact, with more original machinery than any building at Rossdale. It is in generally good condition, with the one significant exception being the free-flowing water ingress in the basement that is causing ongoing deterioration of mechanical and structural metal corrosion at the basement level.

2.3.1 MN-101 & MN-102, Main Entrance Landing & Operating Floor

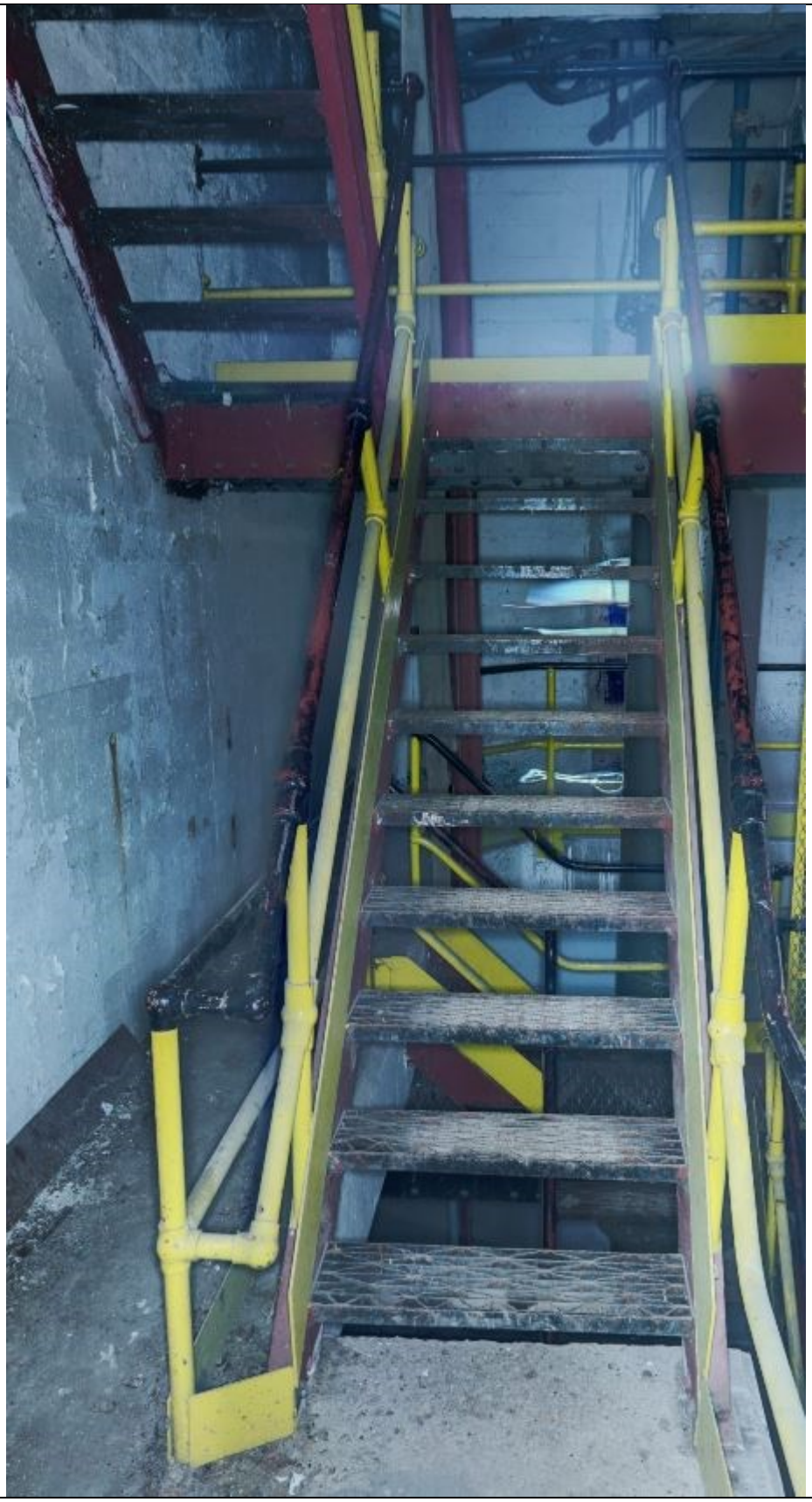
Entrance Landing: Good condition, some minor surficial corrosion and paint failure on floor grates, rails, stairs, and posts.	

Walls & Ceiling: Various insulating fibre board units have been detached, have failing fixtures, and are dimensionally distorted. Others have been disposed of due to water damage. Paint is dirty, but serviceable.	
Concrete floors & Access Hatch: Red paint coating is failing, but concrete is in good condition. Minor surficial corrosion on lower levels access hatches.	

Relict Machinery and Equipment: Coatings are dirty, chipped, and abraded but generally exhibit good structural adhesion where no mechanical damage has occurred. Relict lubricants are soiled and oil-based. Basement and wet well machinery and equipment have more advanced levels of corrosion due to free water ingress.	

Exposed Concrete Structural Elements: Red and pink paint coatings at human level are failing due to activity related abrasion and impacts.	

2.3.2 L1-101 to L4-101, All Lower Stairs

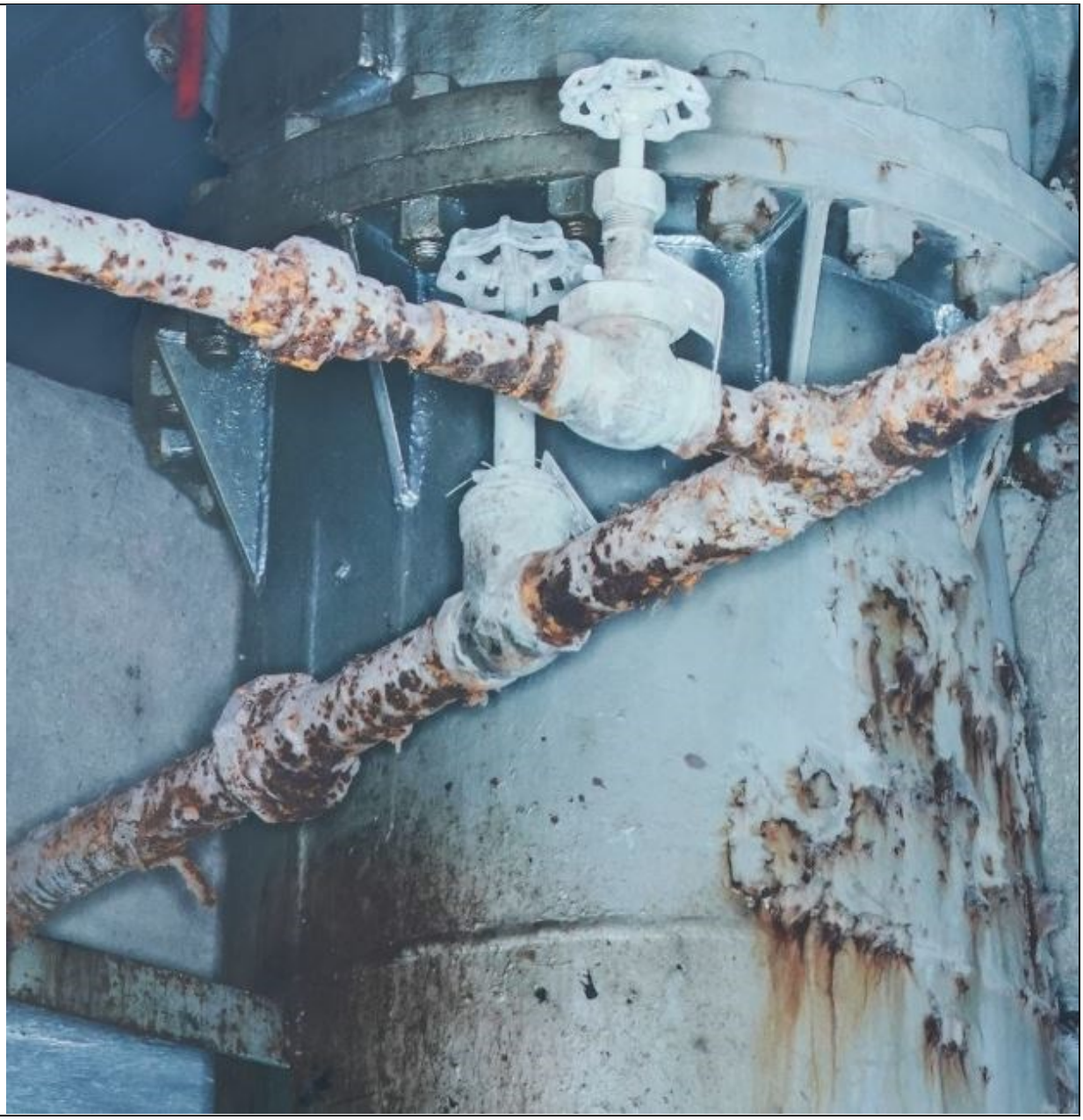
Stairs & Catwalks: Generally all stairs and catwalks are in good condition other than coating failures. Structurally, they are in good condition though are not to current building code	

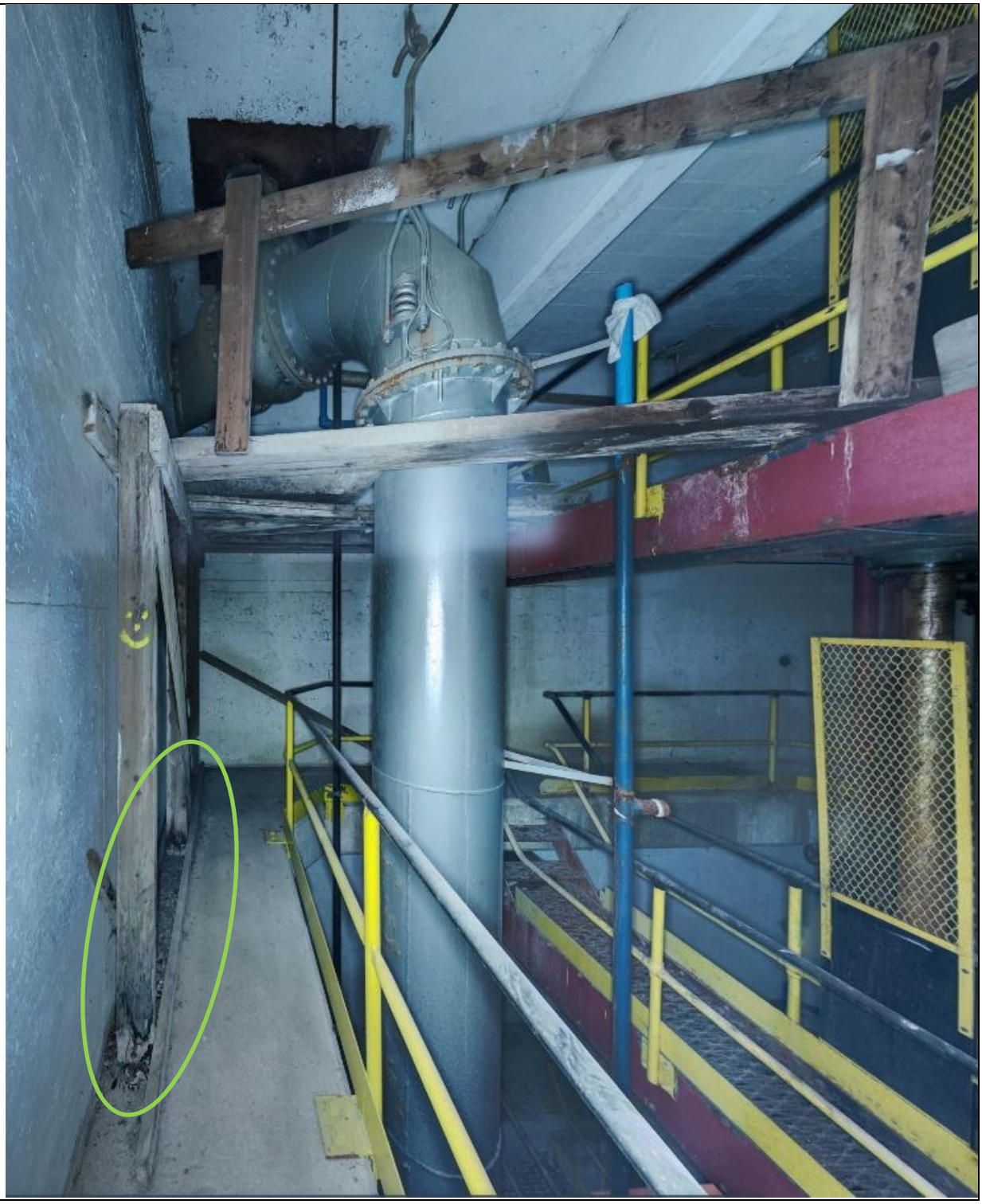
Basement stairs: One exception to good stair ,as noted above, is the lowest stair support posts, L4-101, on the basement floor. These are exhibiting advanced corrosion, loss of section, and coating failures due to standing water and free ions, or river salts, exacerbating deterioration.	

2.3.3 L1-102 to L4-102, All Access Floors

Concrete: Paint coating of all concrete surfaces is soiled and failing in areas. There are isolated areas of exposed reinforcement bar of no more than 1 metre square. This is likely due to positioning of reinforcement too close to the surface (carbonation), corrosion present, and active free flowing water and soluble salts.	

Reinforcement Metal Ends: Reinforcement bar ends are visible throughout all interior wall surface, and include some minor ferrous staining. This staining can be confused with various minor past mechanical fixings and utilities which have been cut off and left in the walls or patched with cementitious fills.	

Relict Mechanical Systems: All metal pipes, machinery, and fixtures are in generally good condition throughout. Coating failure and minor surficial/passivated corrosion is present on many. The photograph at right illustrates a slightly more advanced level of decay than is the norm because of its position on L4 - Lower Level 4 floor. Lower Level 4 is subject to water ingress as outlined in more detail under **Travelling Water Screens / Wet-Well Water / Poor Seal**	

Wood Decay: Ad-hoc wood scaffold evidences fungal decay on basal section of vertical posts (encircled in green in the photograph) resting on concrete floor at L1-102. These support a wooden platform at the catwalk height at L1-102 used to gain service access to the pipe it surrounds.	

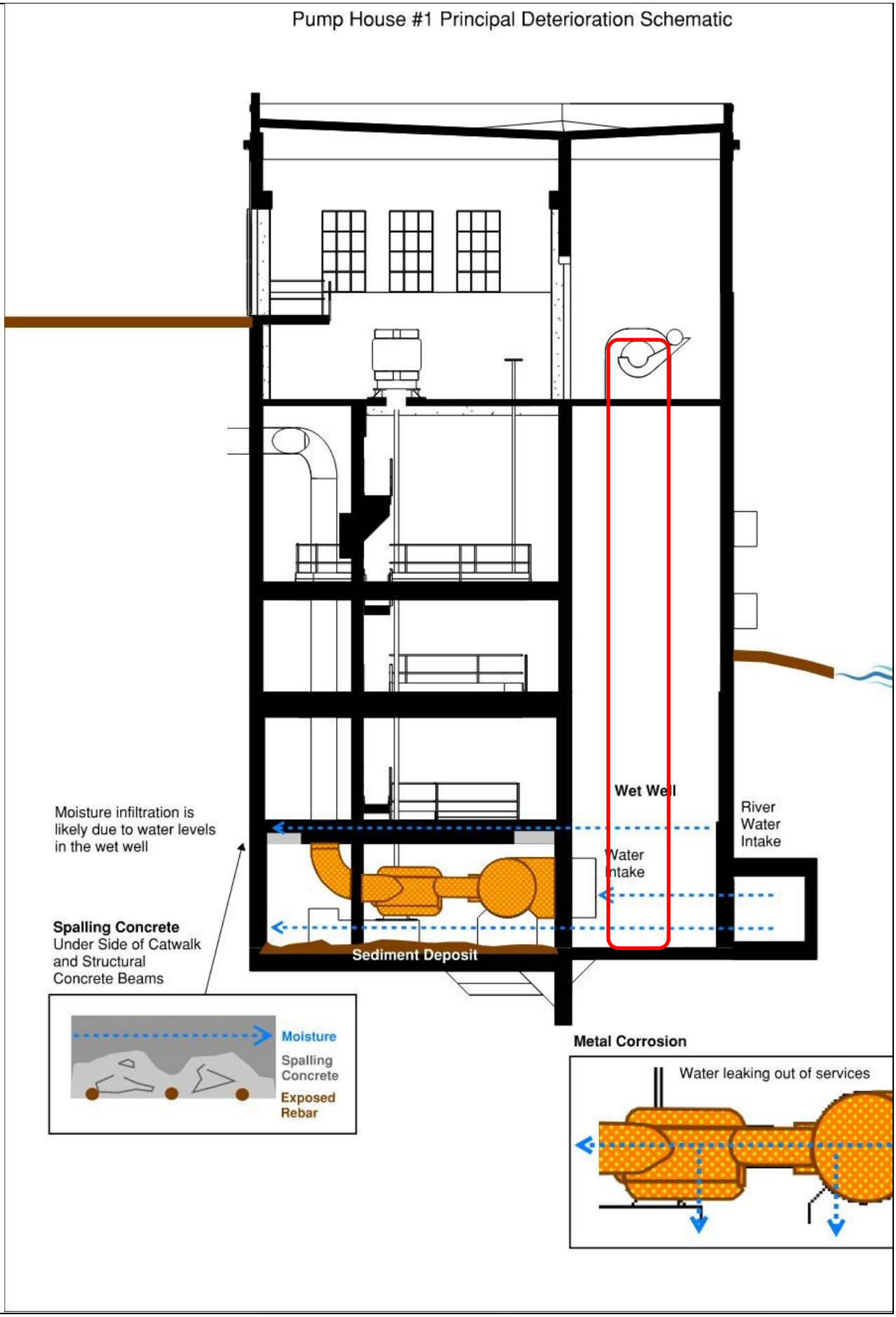
Corroding Metal: There is one exception to mechanical system conditions on L4-102, the basement operating floor. There is a continual leak that ultimately comes from the wet well, travels through the suction headers, and leaks alternatively at the centrifugal pumps or valves. This has caused extensive corrosion to all pipes/valves/posts and coatings leading to loss of section and corrosion packing. As previously mentioned, this is also causing deterioration of vertical posts, supporting stairs, ladders, and landings.	

Floor Deposits: Basement floor is covered in clay/silt due to the leak mentioned above. It is unknown if this sump pump is still operable considering the quantity or depth of river deposits. Perforated plastic bucket is positioned around the sump pump location in hopes to filter out debris.	

2.3.4 L4-103, Wet Well

Access: There is poor access to the wet well from a ladder through the Main Floor, MN-102, floor grates. Because this is a dark confined space of poor access, with deep standing water below, it could not be fully inspected. Further investigation is required. The wet well lies below the metal floor grates in the photograph to the right.	

Travelling Water Screens / Wet-Well Water / Poor Seal: The traveling water screens and structural guides that descend into the wet well are likely heavily corroded within, and are just above, the standing water line. In the diagram to the right, the pathway of current water flow in blue. Water is not sealed and is leaking into the wet well and then into the dry well via pumps/pipes. The pathway of travelling waterscreens indicating great likelihood of advanced corrosion is highlighted in red. Further investigation is required.



2.3.5 MN-301, Pump Valve Appendage

Pump Hatch Appendage: Good condition, some soiling and surficial/passivated corrosion. Pump hatch door is in fine condition, but will likely require some maintenance such as attention to finishes and operable parts.	

2.4 Mechanical Systems

2.4.1 Introduction

The following is a description of the existing mechanical systems and services in the Rossdale Power plant Pumphouse No.1.

Through the efforts of EPCOR the buildings are being preserved to prevent damage to the structure, building systems, finishes and existing equipment housed within. Some temporary systems and measures are currently in place to slow degradation of the buildings and maintain secure, if unoccupied spaces. The assessment is intended to provide an overview of the mechanical systems in each building while also providing recommendations for measures to implement or maintain which will continue to preserve the integrity of the building and their historically significant elements. Mechanical recommendations will focus on the immediate and urgent elements which threaten the building condition while also addressing possible services and systems which will be key to the redevelopment and renewal of this significant Edmonton landmark. Consideration will be given to initial capital costs, and operating costs of any temporary systems with reliability being the vital trait.

The assessment was accomplished by a walk-through of the building and discussions with the engineer who led the de-commissioning effort when the power plant stopped generating activity. Our evaluations did not involve disassembly or specialized testing of components. However, the information obtained from the building operator with respect to heating, ventilation, and plumbing system components provides a reasonable base of information upon which to estimate the condition of the mechanical systems.

2.4.2 Standards and Codes

Assessment of the mechanical systems and any recommendations have been formulated under the assumption the any urgent rehabilitation work as well as future development work will occur under the following codes, or the version that is in force once the redevelopment phase is underway.

- National Building Code — 2019 Alberta Edition (NBC-AE)
- National Plumbing Code of Canada (NPCC), 2015
- Alberta Occupational Health and Safety Act

2.4.3 Pumphouse No. 1 Plumbing Systems

Natural Gas

There is no natural gas serving this pumphouse and none is required for heating or ventilation systems.

Domestic Water and Sanitary Drainage Systems

The pumphouse has no domestic water nor sanitary services. No addition of services is required for its preservation.

Storm Water Drainage and Collection

The roofing is relatively recent, and the single main roof drain appears to have been replaced at the same time. Overflow drains may be required since there appear to be no scuppers around the perimeter of the building. Rainwater leaders inside the building are cast iron and appear to be in good condition on the upper levels.

Sump pumps on the lowest level de-water the building, collect the roof drain water and pump the water out to a sump in the South end of the Turbine hall basement.

Condition and Recommendations

Restore the overflow drain capacity to the roof basin, either through roof drains or overflow scuppers.

The basement level sumps should be cleaned. Verify that pumps are functioning properly, and ensure that duplex pumps are available and operational to prevent flooding should a single pump fail.

2.4.4 Fire Protection

Some handheld fire extinguishers are present within the building and appear to have been recently inspected.

2.4.5 Heating

Heat for the pumphouse is provide by electric unit heaters on the main floor. They appeared to be in operable condition.

2.4.6 Cooling

No mechanical cooling systems are present, nor required, within this structure.

2.4.7 Ventilation
There is no mechanical ventilation system serving any area of the pumphouse. Existing through wall exhaust fans have been either mostly or completely removed and are no longer functional. The openings have been temporarily closed with plywood and timber.

No ventilation requirements for preserving the building have been noted.

2.4.8 Controls
No automation or controls systems are operational within the building, with the exception of standalone controls serving the building heating.

Condition and Recommendations

Since the building is mostly unoccupied for long periods of time the installation of low temperature alarms may be useful to monitor the building throughout the winter to ensure that building operators are notified of any disruption or failure of the heating systems.

Mechanical instrumentation from the process systems still within the space illustrate very clearly the character and history of the building. This pumphouse, more than pumphouse No. 2, has many instruments still in good condition which could be preserved.

2.5 Electrical Systems

In general, the building electrical systems appear to be in overall fair to poor condition, with some variations on specific systems and components as detailed below. See individual condition and recommendation headings within each section.

2.5.1 Overview
The electrical systems were reviewed to establish general configuration and condition. This was accomplished by a walk-through of the building and discussions with the building operator.

Our assessment did not involve disassembly or specialized testing of components. The review was made during prevailing weather conditions and did not test the capabilities of the heating and ventilating equipment during winter or summer temperature extremes.

Specific equipment model or serial numbers have not been investigated with respect to equipment recall, operating requirements, or other matters affecting the safe performance of the equipment identified by the manufacturer or the authority having jurisdiction.

The electrical systems in the building are in generally poor condition and in order for the building to be occupiable will require significant renovations.

2.5.2 Site Services
Electrical site services include underground connection to the main turbine building.

Condition and Recommendations

Site services are adequate for the current use. No recommendations for repair or upgrades are suggested.

2.5.3 Main Service and Distribution Systems
The majority of the distribution is abandoned in the facility. There are two sources of distribution in the building an MCC and a small 12 circuit branch circuit panel. Both appear to be original to the building. The MCC appears to have most of the equipment turned off with a few pumps and heaters still connected. The distribution panel feeds the lighting for the space. Several large control panels and standalone breakers have been disconnected and abandoned due to the equipment no longer being in service.

Condition and Recommendations

The majority of the distribution equipment is in poor condition and has reached the end of its service life. It is our recommendation that the distribution equipment be sized and replaced to match the function of what the space will be used for in the future. The existing equipment should be removed and replaced.

2.5.4 Branch Circuit Wiring
The majority of the branch circuit wiring was concealed in conduit and cable at the time of the review. The conduit appeared original to the facility.

Condition and Recommendations

As the conduit and wiring has been for the most part been abandoned as has most of the equipment, it would be recommended that new wiring and conduit be run for the space once a new use is determined.

2.5.4 Lighting and Lighting Control
The lighting in the facility is comprised of high bay fixtures for the first two levels and then fluorescent striplights on the levels below. The fixtures appear to have reached the end of their life and many of the lamps appear to be yellowed and failing. Control is via line voltage switching only.

Exterior lighting is comprised of one wall pack-type high intensity discharge (HID) light fixture located at entrance.

Condition and Recommendations

Given the fixtures age and condition it is recommended that the high bay fixtures be replaced with new LED energy efficient fixtures. As the building is currently not used frequently, the lighting should be designed for the new space use. At that time, it would be recommended to add a low voltage lighting control system complete with switches and sensors per the space layout.

2.5.5 Low Voltage Systems

There was no observed telephone, data or security systems in the facility.

Condition and Recommendations

It is assumed that for most new uses new telephone/fiber lines will need to be installed to allow for internet and telephone access for the building. A separate LAN room will likely be required for the space. The City of Edmonton will also likely want to add CCTV and card access systems to the building for both interior and exterior security.

2.5.6 Life Safety Systems

The only life safety devices observed in the facility was one emergency lighting battery pack and two sets of emergency lighting remote heads. Functionality of these devices was not able to be determined at the time of the review.

Condition and Recommendations

It is recommended that full building life safety systems be added to the facility. This would include the addition of new green running man type exit signs, as well as new battery packs and remote heads for emergency lighting. Depending on the intended future use and occupancy a fully addressable fire alarm system capable of meeting all code requirements as well as providing the capability of expansion if or when required may also be required. As this building is connected to the main turbine hall the fire alarm system could be shared or linked between the two facilities if one were added.

2.6 Structural Systems

2.6.1 Introduction

RJC completed structural condition assessments for each of the six buildings located on the Rossdale Power Plant site located in downtown Edmonton, Alberta. The six buildings are as follows: Low Pressure Plant (which includes the Boiler Hall, the Turbine Hall & Switch House), Pumphouse 1, Pumphouse 2, and ATCO Gas Metering Building.

The following report is for Pumphouse 1. It includes a summary of the documentation available for review, the site conditions observed and what can be expected for the structure going forward.

2.6.2 Documentation Review

RJC reviewed both the available drawings and reports provided by the City of Edmonton.

Structural drawings were available for review. In general, they were partial sets for the buildings and did not always have the version noted so it is possible they may not reflect what got built. The drawings did contain some information regarding the type and configuration of the structure but, in general, the information was limited and incomplete. As well, some of the areas appeared different than the structure observed on site, which is likely the result of modifications to the Plant over time.

Furthermore, little to no design load information in general was shown on the drawings. Without this information, the capacity of the structure is not known and will need to be confirmed as part of reuse of the building.

The other information, including condition assessments and other related reports, were also reviewed. In general, there was limited information regarding the Pumphouse 1 available.

2.6.3 Site Assessment

RJC completed a visual condition assessment of the 6 noted buildings in late 2020 and early 2021. The condition of the structures is consistent with the age and use as industrial buildings. The structures are uniquely configured to support plant operation and have been modified over time to accommodate changes in equipment. This has resulted in structures that are varied, interdependent, and modified, as is typical of industrial sites where focus is on Plant performance and function.

The reviews were limited to visual observations of accessible areas. No testing or dismantling of finishes occurred during our evaluation. A design review was not part of the scope of this project and the review is preliminary in nature. When the project proceeds into detailed design, detailed checks, and further site investigations will likely be required to confirm the conditions and capacities of the structures, as well as repairs may be required to make areas useable for intended use.

Pumphouse 1 is located south of the LP Plant buildings and was integral to the operation of the LP Plant. The following outlines the review of Pumphouse 1:

2.6.4 PH1 Structural Description

PH1 is the southeastern-most building included for the review. It is located along the river and is a one-storey above-grade building with several storeys below grade. It was originally built in 1930s and has a tunnel connecting it to the LP Plant.

The roof structure appears to consist of wood deck on concrete T-beams on concrete columns/walls. The main floor and lower level structures consists of concrete floors with concrete foundation walls, with steel stairs and platforms for access to the lower levels.

The foundation type is unknown and not visible during the review. The below-grade foundation walls and above-grade exterior walls all appear to be concrete and are heavily reinforced based on the drawings.

The former use for the building was equipment on the main floor, as well as equipment/access for the lowers floors. At time of review, some of the equipment had been removed.

2.6.5 Condition of PH1 Structure

- The roof timber appears in good condition and may have been replaced in recent years.
- The exterior walls appeared to be in good condition. It appears the damage is limited to the surface in general.
- The lower levels were only partially accessed (one floor down). In general, no visible concerns were noted, except some signs of water infiltration. There was also some localized surface damage to the concrete on the lower floors, typical of its age.
- Access to the exterior of the building on the south side was not feasible at time of review.

Therefore, in general, based on only visual observations, it appears the structure is in fair condition given its age. Overall, the structure appears to be performing as intended (but is seeing significant lower loading currently). No immediately critical structural damages were observed during the assessment, but it is expected some repairs will be required.

At this time, no additional investigations are suggested, unless the City of Edmonton wants a better idea of the condition of lower levels of the structure, given it is generally not reviewed.

Overall, it is important to note parts of the structure could be at or near the end of the life cycle. While this does not mean replacement is required, repairs can be expected to make the building re-usable. It also means the on-going maintenance costs for the structure might be higher as the members/materials/finishes might need more upkeep (than what might be expected in newer buildings). Additionally condition reviews might need to be more frequent to ensure the structure remains in an adequate condition.

In general, the building structure has been constructed for plant operation and was built prior to major building codes. It is not known what codes the design was to, based on the drawings reviewed. Therefore, depending on the re-occupancy plan and intended use, assessment (and potentially reinforcement) may be required structurally.

2.6.6 Conclusion

In general, the condition of structure for the Pumphouse 1 is fair. If re-occupied, the structure will need to be evaluated for capacity and some of the conditions repaired. Based on the results of those evaluations, repairs and reinforcement of the structure can reasonably be expected in some areas. Those could include, but are not limited to, evaluations and repairs such as:

- Reinforcement or upgrade of roof structure for current snow loads or changes to roofing
- General concrete repair and patching, including repair of spalled concrete
- Repair of stairs between floors
- Upgrading roof structure if used as patio areas
- Review of existing building under requirements for existing buildings (in commentary of National Building Code 2015) and National Building Code - 2019 Alberta Edition

These upgrades are dependent on the future use of the building. Those recommendations are beyond the scope of this report and unknown given the intended use is still an unknown. However, it can reasonably be expected that some changes to the structure will be part of the work required.

2.6.7 Limits of Liability

This report is intended to provide a general description of the structure and its condition, which may have been apparent at the time of our review. Read Jones Christoffersen Ltd. did not perform any design checks to confirm the adequacy of the structure. They will however be required in some instances during design to confirm the capacity of the structure for the intended uses. This is because only limited structural drawings were available for review.

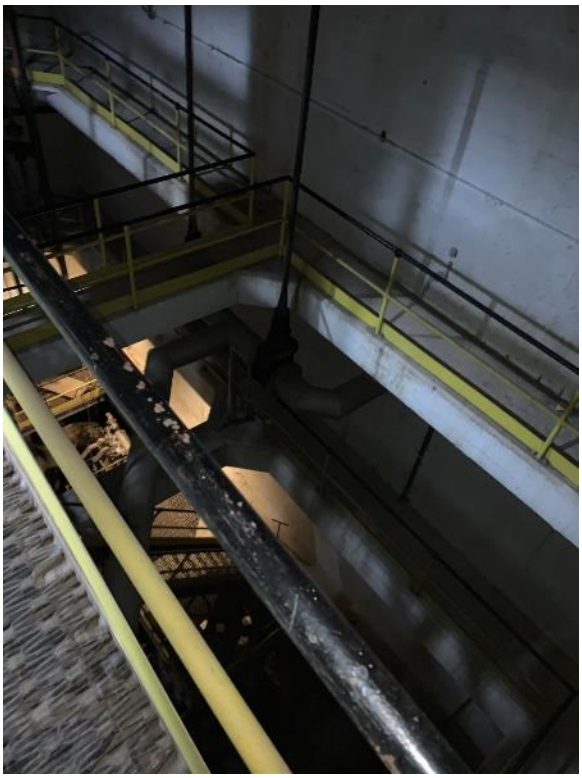
The review was limited to visual observations of accessible areas. No testing or dismantling of any coverings was performed. Reviews were made on a random basis with no attempt to review or inspect every element or portion of the building. The intent of the review was to determine areas of visually obvious deterioration and need for repair, and to determine, in a general way, the overall quality and sufficiency of the structure, but not to ascertain the quality or sufficiency of any specific aspect of the structure.

Our comments are not a guarantee nor warranty of any aspect of the condition of the building whatsoever, nor that the building has been built in accordance with the drawings and specifications. Any opinions of probable cost presented by the Consultant are based on incomplete or preliminary information and on factors over which the Consultant has no control. The Consultant does not guarantee the accuracy of these probable costs and shall have no liability where the probable costs are exceeded. Reports prepared by the Consultant are exclusively for the use and benefit of the Client. They are not for the use or benefit of, nor may they be relied upon b any other person or entity without written permission of the Consultant

Above: PH1– Tunnel from Turbine Hall

Above: PH1 – Roof Structure

Above: PH1 – Roof Structure



Above: PH1 – Lower Level Structures

2.7 Building Code

Please refer to the *Building and Fire Code Assessment* for a detailed overview of Building Code and Accessibility compliance challenges and opportunities

2.8 Designated Substances

While hazardous materials assessment was not within the scope of this project, the consultant team did consult the following documents in the preparation of this condition assessment report. Further examination by a qualified hazardous materials consultant is recommended prior to the implementation of any conservation planning or rehabilitation measures.

Title[2]	Author	Date
Hazardous Building Material Survey Report	PHH ARC Environmental Ltd.	2008-12-24
Oil Samples MP01-9312	Meridian Power Systems Inc.	2009-01-26
PCB G10	Meridian Power Systems Inc.	2009-01-27
PCB GT10	Meridian Power Systems Inc.	2009-01-27
EPCOR Rossdale MP01-9312 PCB Results	Meridian Power Systems Inc.	2009-01-29
Asbestos Bulk Samples and Air Monitoring	PHH ARC Environmental Ltd.	2009-02-11
Asphalt Asbestos Bulk Samples	PHH ARC Environmental Ltd.	2009-03-13
6304BRr01 “Rossdale EPCOR Refractory Bulk Sampling Report”	PHH ARC Environmental Ltd.	2009-07-07
Additional ACM Testing “Pinchin Environmental Asbestos Laboratory - Certificate of Analysis”	Pinchin Environmental Testing	2010-04-23
Haz-Mat Testing Rossdale Generating Project “Bulk Material Identification”	RH Services Inc	2015-04-23
Asbestos Report Roof Access Hatch	Pinchin Environmental Testing	2016-05-09

[2] See Works Cited for specific references.

3.0 Conclusions & Recommendations

Areas or subject matter of the building that might require further investigation, including limitations of the current assessment, include:

1) Unknown conditions of wet-well due to lack of access suggests that the wet-well and all associated machinery and mechanical systems require further investigation. This could correspond to efforts to seal water leaks.
2) Depth of concrete carbonation and depth of concrete reinforcement in relation to its surfaces may help inform sustainable preventative conservation, for instance, perhaps a cathodic protection systems could help reduced future maintenance due to the inherent vice of reinforced concrete assemblies that inevitably exhibit corrosion packing of ferrous reinforcements.
3) Material properties necessary to specify a repair or replacement of materials in unit or section.

Specific recommendations that have follow from understanding of building conditions are included in the subsequent AARP document, *Priority Rehabilitation Scope Definition and Class 5 Budget.*

4.0 Appendices – Conditions Mapping

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

Consultant Responses to CP-9673 RPP AAPR PD01 - Alberta Culture Review

2020-06-30

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01	N/A	N/A	Corrections needed for labels under "Building Condition Assessment" in cheat sheet.	Noted and corrected, thanks.
02	N/A	N/A	Recommend proof reading/editing in general – minor/minimal wording, typing and formatting mistakes noted for written reports	Noted.
03	N/A	N/A	Be mindful of copy/paste transfers – most notably between Building Condition Assessments of Pump Houses (i.e. front door and electrical).	Noted.
04	Building and Fire Code Assessment	TOC	There appears to be an error in the content table at the Building and Fire Code Assessment as the pages are listed in roman numerals	Noted and corrected, thanks.
05	Building and Fire Code Assessment	Section 1.5	Section 1.5 of Building Code Assessment indicates that no floor plans were reviewed but included in appendix?	This will be corrected in the final report.
06			Conservation Plan has yet to be uploaded.	Corrected.
07			Overall, I think the information provided is good and I look forward to discussing further at the next meeting.	Noted, thanks.
08			Recommend light proof reading for very minor typing/wording mistakes but more formatting issues (i.e. line breaks and empty spaces/pages around photos/images).	Noted, thanks.
09			The highlighted section on Pump House #1 to possibly relocate existing equipment to Pump House #2 would go against Standard 4 of the S&Gs which states: "Recognize each historic place as a physical record of its time, place and use. Do not create a false sense of historical development by adding elements from other historic places or other properties or by combining features of the same property that never coexisted." As this is highlighted along with other sections (i.e. the ATCO Gas Building), I understand that this will be edited/removed in the next version.	Yes, this will be removed in the final report.
10			I believe that there were glitches noted in the table of contents/reference pages.	Noted and corrected, thanks.
11			Overall, I think that this Conservation Plan will be a useful tool and I look forward to the future discussions on interventions that it will lead to.	Thanks!

100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3

t 403 261 9050
f 403 261 9054

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
studio@the-mbac.ca
www.the-mbac.ca

Consultant Responses to CP-9673 RPP AAPR PD01 - Architectural Review

2020-06-30

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01	Building and Fire Code Assessment	N/A	Lot of information is included in terms of Code requirements. But it is not always clear on how the existing conditions fare against those requirements. If existing items are determined to be non compliant, adding a sentence pointing out the non-compliance would suffice. [Comment do not apply to accessibility section]	We can endeavor to identify the applicable code nonconformance(s) where they occur and additionally where they could be applied to the range of [future] occupancies proposed. In some areas it is difficult to identify a noncompliance for a certain occupancy type as this could differ slightly from another occupancy type (where that noncompliance is not appropriate or deemed as such).
02	Building and Fire Code Assessment	N/A	Would it be possible to add an executive summary to sum up the level of impact that each major occupancy will have on the buildings?	Yes, we can identify this at a "high-level" in executive summary form at the beginning of the report.
03	Building and Fire Code Assessment	p. 9	Table 3.2 and 3.3: Is D occupancy an anticipated occupancy for Pumphouse # 1 and 2 due to the layout of these two buildings?	The occupancy types for each building are set, although an occupancy might not be proposed for a specific building, we have provided the information to each building, not knowing at this time what the future occupancy could/would be.
04	Building and Fire Code Assessment	p. 11	Table 3.5: It would be helpful to include the minimum rating required for loadbearing walls, columns and arches. At least in brackets? [Comment also applies to Table 3.6].	Noted, we will apply the minimum fire resistance rating(s) required for loadbearing walls, columns and arches [where applicable].
05	Building and Fire Code Assessment	p. 34	Tables showing 'Occupant Load Analysis vs. Exiting Provisions': Would it be possible to add existing conditions to this table or is that still being determined?	During the site visit, many existing exiting doors were locked shut, we can take the measurement from the Architectural drawings to establish the existing exiting width provisions and add this into the relevant table.
06	Building and Fire Code Assessment	p. 40	12.0 Vertical transportation: Which buildings does this section apply to?	We will update and provide further details within the report to where this is required and where this would be triggered.
07	Building and Fire Code Assessment	p. 41	13.0 Washroom requirements: Can a column be added to indicate the number of washrooms required, if we go with all universal (gender-inclusive) washrooms?	Yes, this information can be added. Generally, the number of washrooms required for gender-inclusive purposes would be the sum of those required for both male and female washrooms. This value may change if the occupant load changes throughout the life of the project / design progression. In addition, barrier-free requirements for those washrooms will be revised in the final report to indicate that only 2 barrier-free washrooms are required to be provided for each floor area proposed to contain a barrier-free path of travel, per the Edmonton Access Design Guide.
08	Building and Fire Code Assessment	p. 42	Section 14.0 is titled INTRODUCTION without an indication that this is an introduction to a new section, accessibility. Please revise the title for clarity.	Yes, the final report will be provided with a proper introduction to the Accessibility portion of the report for clarity.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
09	Building Condition Assessments		2.1 Civil/Landscape: Same information is included for condition assessments of all buildings. Some of the information included for the Low Pressure Plant is not relevant for the pump houses or ATCO Gas building. Can this section be customized for the pumphouses and ATCO Gas building by removing non-applicable items?	Yes, this will be updated in the final version of the assessment reports.
10	Conservation Plan	p. 20	The City Plan was approved by Council in December 2020.	Noted, thanks. This will be updated in the final report.
11	Conservation Plan	p. 42	Criteria table: Does Building Code requirements fall under 'Health and Safety/Security'?	Yes.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

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2020-06-30

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01	Photographic Record Documents	p.3	P. 3 of each Photographic Record document says that all photographic data is from MiraCAD or drone footage "with the exception of photograph #8, which was taken by a Pixel 3a Smartphone Camera." Each document has its own numbering so I'm assuming that this photograph #8 taken by the Pixel 3a is only in one of the Photographic Record documents and not them all.	Noted and corrected, thanks.
02	Switch House Condition Assessment	p. 35	Looks like a word is missing in the final paragraph. Was it intended to read "...there is a notable lack of trolley stops"?	Noted and corrected, thanks.
03	Switch House Condition Assessment	p. 45	Should read "its" rather than "it's" in second sentence of Natural Gas paragraph.	Noted and corrected, thanks.
04	Switch House Condition Assessment	p.48	This states that the temporary glycol heating system is "adequate for heating to preserve the foundation and no changes are recommended unless maintaining the system in place is cost prohibitive." I would like one or two more sentences recommending what we should do if the system in place is deemed to be cost prohibitive.	We will update the recommendation accordingly.
05	Switch House Condition Assessment	p. 53	The first sentence under heading 2.6.6 refers to the Turbine Hall which appears to be a boilerplate error, since this document pertains not to the Turbine Hall but to the Switch House.	Noted and corrected, thanks.
06	Turbine Hall Condition Assessment	p. 44	Should read "its" rather than "it's" in second sentence of Natural Gas paragraph.	Noted and corrected, thanks.
07	Turbine Hall Condition Assessment	p. 47	This states that the temporary glycol heating system is "adequate for heating to preserve the foundation and no changes are recommended unless maintaining the system in place is cost prohibitive." I would like one or two more sentences recommending what we should do if the system in place is deemed to be cost prohibitive.	We will update the recommendation accordingly.
08	Turbine Hall Condition Assessment	p. 52	"It is important to note that there are structural members which are at or could be near the end of their life-cycle." I thought part of the purpose of this report is to identify what's good and what isn't. Does a "things could be bad" statement impugn the structural integrity of the building, or is that intended to just be a flag for future detailed design in adaptive reuse work?	Statement is intended to note structure cost can be expected to upgrade and maintain structure. It is not intended to indicate the structure is no longer usable, and we will update comments to better reflect it.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
studio@the-mbac.ca
www.the-mbac.ca

100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3

t 403 261 9050
f 403 261 9054

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
09	Boiler Hall Condition Assessment	p. 14	Second sentence refers to Turbine Hall, which looks to be a boilerplate error.	Noted and corrected, thanks.
10	Boiler Hall Condition Assessment	p. 51	Should be "its" rather than "it's" in second sentence of Natural Gas paragraph.	Noted and corrected, thanks.
11	Boiler Hall Condition Assessment	p. 54	This states that the temporary glycol heating system is "adequate for heating to preserve the foundation and no changes are recommended unless maintaining the system in place is cost prohibitive." I would like one or two more sentences recommending what we should do if the system in place is deemed to be cost prohibitive.	We will update the recommendation accordingly.
12	Boiler Hall Condition Assessment	p. 60	"It is important to note that there are structural members which are at or could be near the end of their life-cycle." I thought part of the purpose of this report is to identify what's good and what isn't. Does a "things could be bad" statement impugn the structural integrity of the building, or is that intended to just be a flag for future detailed design in adaptive reuse work?	Statement is intended to note structure cost can be expected to upgrade and maintain structure. It is not intended to indicate the structure is no longer usable, and we will update comments to better reflect it.
13	Pump House 1 Condition Assessment	-	Page numbers missing throughout.	Noted and corrected, thanks.
14	Pump House 2 Condition Assessment	-	Page numbers missing throughout.	Noted and corrected, thanks.
15	Pump House 2 Condition Assessment	Wet Mud page	"wed mud deposits" is a typo. Great schematic explaining the water ingress issue, though!	Noted and corrected, thanks.
16	Building and Fire Code Assessment	p. 3	In the paragraph after the bullets, remove the apostrophe after "buildings."	Noted and corrected, thanks.
17	Building and Fire Code Assessment	p. 31	The total calculated occupant loads seem really high. 1425 people on the main floor of the Turbine Hall? 1065 people on the mezzanine level of the Boiler Hall? 424 people in Pumphouse #1? 1481 people in Pumphouse #2? I just want to ensure that how we're calculating the area is accurate. These numbers are the basis of other calculations so they have to be realistic. For example, on page 41, the occupancy numbers total up to 11,380 people needing 124 water closets plus 14 barrier-free washrooms (p. 68) for a total of 128. Eleven thousand people in the Low Pressure Plant seems impossible and the washroom numbers seem astronomical to me.	The occupancy calculations identified in the assessment are a product of applying the Code-defined ratios of area per person. In practice the final determination of occupancy type, likely coupled with a design occupant load (which limits the number of people permitted to occupy portions of each of the buildings at any one time) would be used to limit the number of (amongst other things) washroom fixtures required. We will add a clarifying note to this effect.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
18	Conservation Plan part 1	p. 22	Section 4.5 of the River Crossing Business Plan actually doesn't have any text about the power plant, but the map in this section shows the power plant as being intended for Institutional / Cultural uses. This wouldn't preclude commercial uses, but the reference to at-grade commercial in section 4.5 of the business plan is to streetfronts on 96 Ave and 104 St north of the power plant. Please combine the two (A) sections under the section 4.5 heading on p. 22 and correct them accordingly.	Noted and corrected, thanks.
19	Conservation Plan part 1	p. 23	The sentence "The Rivers Crossing Business Plan is legally supported through zoning by the Rossdale Area Redevelopment "Bylaw 8139..." is not exactly correct. The Rossdale Area Redevelopment Plan was adopted in 1986 and we are now in the process of updating the ARP on the basis of the Business Plan. Replace this with something like the following: "The City is now in the process of updating the Rossdale Area Redevelopment Plan on the basis of the River Crossing Business Plan. The boundary of the ARP is shown on the following map. The City is also in the process of updating the zoning that applies to the power plant complex to reflect the scope of possible future uses."	Noted and corrected, thanks.
20	Conservation Plan part 1	p. 36	Should read "Stone masons" instead of "Stone mason's".	Noted and corrected, thanks.
21	Conservation Plan part 1	p. 36	Footnote 28 appears to be misplaced.	Noted and corrected, thanks.
22	Conservation Plan part 1	p. 72	John Poole was the son of PCL founder Ernest Poole. Perhaps write "(who later became co-owner of construction firm known as PCL, formerly Poole Construction Limited, and a prominent Edmonton philanthropist)".	Noted and corrected, thanks.
23	Conservation Plan part 1	p. 84	p. 84 The first sentence is missing a period.	Noted and corrected, thanks.
24	Conservation Plan part 1	p. 93	The final sentence on the page -- "It is the drainage of the glacial melt Lake Edmonton that led to a rapid down cutting of what we now call the North Saskatchewan River" -- is technically correct but it makes the reader think that the drainage of Lake Edmonton happened through the North Saskatchewan River, when in fact the drainage was the Gwynne Channel (Godfrey, 1993, p. 26-29). It would be clearer to write: "After the glacial-melt Lake Edmonton drained to the southeast, what we now call the North Saskatchewan River rapidly began cutting down its valley."	Noted and corrected, thanks.
25	Conservation Plan part 1	p. 94	Impressive re-drawing / updating of the river valley geological cross-section!	Thanks!

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
studio@the-mbac.ca
www.the-mbac.ca

100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3

t 403 261 9050
f 403 261 9054

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
26	Conservation Plan part 1	p. 96	Given footnote 44, I think you mean "World Wildlife Fund" (capitalized) rather than the World Wildlife Foundation, which is a different, much smaller, organization.	Noted and corrected, thanks.
27	Conservation Plan part 1	p. 97	I think there should be a comma between the two sentences on this page.	Noted and corrected, thanks.
28	Conservation Plan part 1	p. 113, 115	What is the evidence supporting the statement that Cree called Rossdale pehonan? The Executive Summary of the 2004 Rossdale Flats Aboriginal Oral Histories Project said that Rossdale was a pehonan, or gathering place, long before the fur trading era. All subsequent references to pehonan in the Oral Histories Project report, however, come from Louis "Buff" Parry, a non-Indigenous person with an exceptionally curious background that includes writing a book and making documentary about secret societies and years of research about the Holy Grail. Since the Oral Histories Project report was issued, other people locally have applied the term pehonan to Rossdale, but no archival evidence of the name has been demonstrated, and the River Crossing project's extensive Indigenous engagement with First Nation elders and others never connected the term to Rossdale. In the book Castles to Forts: A True History of Edmonton, Metis researcher Phillip Coutu, one of the most involved Indigenous activists associated with the Rossdale burial ground, uses the term pehonan a number of times, but only in connection with the area near the forks, or confluence, of the North and South Saskatchewan Rivers over 500 km to the east of Edmonton. Archaeological evidence indicates that the Rossdale flat had human activity as long as 10,000 years ago, but there is also evidence of similarly old human activity on other river flats in the area. In the words of provincial archaeologist Caroline Hudecek-Cuffe, "There is increasing evidence showing a very long and consistent pattern of Indigenous hunting, camping, and utilization of the diverse resources offered by the river valley and its tributaries in the Edmonton region." On our River Crossing web page, we celebrate the river valley being "a sustaining force, giving people water, food, shelter, and medicine." It is also accurate to say that the Rossdale flat has been a place of human activity for 10,000 years. To suggest that this one river flat, however, was more special, or more sacred, than other, nearby river flats prior to the arrival of the fur trading forts feeds into a narrative with more political purpose than evidentiary support.	"pehonan" here isn't being used as a noun, but as a verb. It is in line as an accepted convention, from Chief Bruno to Edmonton Historical Board website. However, we have now referred to it as Gathering Place instead, to be more inclusive of a multitude of indigenous groups rather than Cree-centric.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
29	Conservation Plan part 1	p. 124	The label for the map on this page should read "The green line depicts the possible route of Anthony Henday's expedition..." There are four different versions of Henday's journals with so much variation between them that historians today are loath to follow earlier generations of historians who claimed to have determined with certainty Henday's route. For more information, see Henday, Anthony. A Year Inland, ed. Barbara Belyea. Waterloo: Wilfrid Laurier University Press, 2000.	Noted and corrected, thanks.
30	Conservation Plan part 1	p. 124-125	The write-up about Fort Augustus / Edmonton House I needs to be rewritten as it is based on an incorrect reading of Dylan Reade's 2018 article. Dylan confirmed with me in an 8 Apr 2021 email that he has no contention with the accepted location of Fort Augustus / Edmonton House I "as it seems to be amply documented both archivally and by archaeology" in Dylan's words. It's Fort Augustus II that he thinks was located on the Victoria flat. While we don't yet have concrete archaeological evidence of the fort being in this location, Dylan's article provides the archival evidence supporting his claim, which is consistent with the fact that archaeologist Nancy Saxberg has never found any 1800-1815 artifacts in Rossdale and herself believes that Fort Augustus / Edmonton House II were on the Victoria flat. In other words, the current evidence points to the Rossdale flat as being home only to Fort August / Edmonton House IV between 1813 and 1830, when Edmonton House V was built on what is now the Legislature grounds. This report should reflect this current thinking.	Noted and corrected, thanks.
31	Conservation Plan part 1	p. 125	This sentence at the bottom of the page also needs to be changed in light of my previous comment: "European settlement on the Rossdale flats did not occur until the early 19th century, with Fort Edmonton II & Fort Augustus II (1802- 1810)." As mentioned, evidence points to European settlement on the Rossdale flat beginning in 1813.	Noted and corrected, thanks.

100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3

t 403 261 9050
f 403 261 9054

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
studio@the-mbac.ca
www.the-mbac.ca

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
32	Conservation Plan part 1	p. 125	I would also encourage you to consider revising this sentence: "...likely for the same reasons Indigenous Peoples chose Rossdale Flats as a place for encampment for the preceding 10,000 years as land with good river access, flat relatively high land, and largely flood free." Today's high-banked Rossdale flat reflects significant fill added in the 20th century. Binnema and Ens, in the introduction to their 2016 publication of the 1821-1826 Edmonton House Journals, note on p. lxxxv that frequent flooding on the Rossdale flat was the reason for the move to the Legislature grounds site, so Rossdale clearly was flood prone. The fur traders choosing to return in 1813 to what is now the Edmonton area after a failed venture 100 km downstream (Fort Augustus / Edmonton House III, 1810-1812) was obviously done in recognition that the Edmonton area better met their needs, but the specific choice of the Rossdale flat at that time may have been as simple as that it was the next "virgin" flat over from where they had been before 1810. It was probably more nuanced a choice than that -- the Rossdale flat was on the inside of the river's turn and hence away from the strongest flow whereas the Victoria Flat was on the outside of the turn -- but what I think needs to be emphasized in this part of the report is not one flat's superiority over all the others in the vicinity but the general desirability of the Edmonton area. On 9 Apr 2021, I spoke with Alwynne Beaudoin, Director of Natural History at the Royal Alberta Museum and an expert paleoecologist. When I asked her what originally made the Edmonton area attractive to Indigenous peoples, she said that it was "the variety of the landscape." The Edmonton area has a protective valley, is on the margin of the forest, is close to the grassland, is near the Beaver Hills, is a good spot to get across the river, and is convenient to the mountains. "Where you get a lot of ecological complexity," she said, "is where you get a lot of resources."	Noted and corrected, thanks.
33	Conservation Plan part 1	p. 126	Revise the piece about the locations of Edmonton II and IV based on my comments above. Nancy Saxberg and Dylan Reade both think that Edmonton II was on the Victoria flat, though they focus on different edges of that flat. Nancy's work (e.g. image on p. 112 of the Conservation Plan) along with documentary evidence (e.g. the James Bird map on p. 107) strongly connect Edmonton IV with Rossdale.	Noted and corrected, thanks. I circled back with Nancy Saxberg as well [EO].
34	Conservation Plan part 1	p. 128	Is the red box lower on the image than intended?	Yes, noted and corrected, thanks.
35	Conservation Plan part 1	p. 130	Dylan Reade (reade.dylan@gmail.com) has information on how Donald Ross got River Lot 4 in case you want to follow that lead.	Finally made contact, thanks Erik! [EO].

100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3

t 403 261 9050
f 403 261 9054

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
studio@the-mbac.ca
www.the-mbac.ca

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
36	Conservation Plan part 1	p. 130	Donald Ross's hotel was called the Edmonton Hotel. And the "the land underneath the Power Plant" is not "likely," but certainly, "outside of the bounds of the River Lot."	Edited. I found a reference to Ross Hotel at one point and I think that stuck in my head [EO].
37	Conservation Plan part 1	p. 135	Photo caption and footnote should read "Power Plant in Danger."	Noted and corrected, thanks.
38	Conservation Plan part 1	p. 136	Should read "Jasper Avenue's"	Noted and corrected, thanks.
39	Conservation Plan part 1	p. 141	I would recast the final sentence to indicate that the Rossdale Power Plant was the only electrical generating station in Edmonton until Clover Bar opened in 1970.	Noted and corrected, thanks.
40	Conservation Plan part 1	p. 147	Should read "street railway cars"	Noted and corrected, thanks.
41	Conservation Plan part 1	p. 154	Final sentence appears to be a note to the writer.	Noted and corrected, thanks.
42	Conservation Plan part 1	p. 157	The caption for Figure 127 appears garbled: "up to 16 of the plant's boiler technology was..."	Noted and corrected, thanks.
43	Conservation Plan part 1	p. 171	Should read "Mayor Hawrelak"	Noted and corrected, thanks.
44	Conservation Plan part 1	p. 175 - 176	All references to the "City" should be capitalized.	Noted and corrected, thanks.
45	Conservation Plan part 1	p. 183	Be consistent regarding whether to fully capitalize "Whiting." Also, "Whiting" is spelled incorrectly in one place.	Thanks, some confusion based on a report presentation of the name.
46	Conservation Plan part 2	p. 7	Should read "Pump House #2 and the Switch House are included in this draft."	
47	Conservation Plan part 2	p. 7	I'm pleased to see the discussion of deep Indigenous connection to the site but would like to see it called something other than pehonan. As indicated in comments above, no one including you has presented evidence that this one river flat had especial importance before fur trading forts were established on it. What the evidence instead indicates is the importance of the river valley as a whole to Indigenous peoples. I propose replacing the pehonan heading and first two sentences with something like the following: "Indigenous significance: The river valley of which Rossdale is a part has deep Indigenous significance. There is evidence of campsites in Rossdale and other river flats going back 10,000 years. European fur traders were drawn to what is now the Edmonton region because of the number of Indigenous peoples who lived on this land. The establishment of trading forts in Rossdale made it an important gathering space for many First Nations and Metis people -- a place of ceremonies, celebrations, meetings, trade, dance, and games."	Noted and amended. Please refer to response to comment #28.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
48	Conservation Plan part 2	p. 7	Surely the phase "arbitrary Eurocentric deli" is an error?	Yes, noted and corrected, thanks.
49	Conservation Plan part 2	p. 7	Should read "(specifically Forts Edmonton & Fort Augustus IV)"	Noted and corrected, thanks.
50	Conservation Plan part 2	p. 8	In heading B, paragraph 1, capitalize "City."	Noted and corrected, thanks.
51	Conservation Plan part 2	p. 9	Should read "Mayors" not "Majors."	Noted and corrected, thanks.
52	Conservation Plan part 2	p. 18	Should read "including Fort Edmonton IV and Fort Augustus IV" and, lower on the page, "Fort Edmonton IV's location at this site..."	Noted and corrected, thanks.
53	Conservation Plan part 2	p. 18	Regarding the text in highlighting, once the Rossdale subdivision is registered, the Rossdale Power Plant will occupy a portion of a 3.72 ha parcel.	Noted and corrected, thanks.
54	Conservation Plan part 2	p. 19	Should read "co-owner of PCL."	Noted and corrected, thanks.
55	Conservation Plan part 2	p. 20	"[This point split as below]" -- is this a note to the writer?	Yes, noted and corrected, thanks.
56	Conservation Plan part 2	p. 27	There are two copies of the same image.	Noted and corrected, thanks.
57	Conservation Plan part 2	p. 48	Should read "...of Fort Edmonton IV."	Noted and corrected, thanks.
58	Conservation Plan part 2	p. 49	In point 5, it should read "...similar to the heritage pattern."	Noted and corrected, thanks.
59	Conservation Plan part 2	p. 50	Is the paragraph that begins "New additions should not attempt..." intended to be part of the Mechanical and Electrical Systems row? It feels like its own Additions row.	Noted and corrected, thanks.
60	Conservation Plan part 2	p. 50	The sentence "While reversibility was once a mantra of the heritage profession re-treatability is recognised as" appears to be unfinished.	Noted and corrected, thanks.
61	Conservation Plan part 2	p. 52	It looks like there is a writer's note at the top of the page.	Noted and corrected, thanks.
62	Conservation Plan part 2	p. 56	The text of the top of the page appears incorrect or missing something.	Noted and corrected, thanks.
63	Conservation Plan part 2	p. 64	What does the Distillery District image have to do with the notion of relocating machinery?	Machinery bit was supposed to be deleted, good catch. Distillery example is about turning windows into doors. I actually physically changed a few when I was a mason myself [EO].

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
studio@the-mbac.ca
www.the-mbac.ca

100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3

t 403 261 9050
f 403 261 9054

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
64	Conservation Plan part 2	p. 70 - 76	I will need to discuss this proposed process with the City's Indigenous Relations Office. My observation is that this looks to be a very resource-intensive process. There is nothing in this write up about how it would relate to engagement with non Indigenous stakeholders and the general public other than saying that "meaningful and clear roles for non-Indigenous collaborators will be critical to the success of the engagement process." Also, unless I'm missing it, there is nothing in this text that explains how the proposed engagement process relates to the conservation phases listed on p. 43. For example, is all of the process indicated recommended to happened as part of the limited, strategic renovations being done as part of the Advanced Assessment and Priority Rehabilitation project in 2021 - 2023, or would all of this process apply to short term work in 2023 - 2028? Or medium term work after 2029? I suggest adding a Staging or Timing subsection to this section of the report.	This will be updated. Not part of AAPR process, because this is a bit more hard nose stabilisation/enabling rather than permanent space-making. There could also be opportunities to run this engagement alongside other area re-development such as the inidgenous park to the north. City Framework will be referenced.
65	Conservation Plan part 2	p. 86	The second sentence in bullet (1) should read "Do salient archival records survive..."	Noted and corrected, thanks.
66	Conservation Plan part 2	p. 86	The second sentence in bullet (2) should read "The authors attempted to make contact but were unsuccessful."	Noted and corrected, thanks.

100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3

t 403 261 9050
f 403 261 9054

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
studio@the-mbac.ca
www.the-mbac.ca

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
67	Conservation Plan part 2	p. 87	As noted on p. 126 of the Conservation Plan part 1, there already is a National Historic Site in the vicinity of the Rossdale Power Plant: the misnamed "Fort Edmonton III National Historic Site" that commemorates the location of the final fur trading fort in the Edmonton area, on what is now the grounds of the Alberta Legislature. This NHS, designated in 1959, is embarrassingly documented (e.g. a photo of Fort Edmonton V on the NHS web page is labelled as being Fort Edmonton III) and celebrates an incredibly narrow band of the history of the area. Designating the Rossdale Power Plant as a National Historic Site as suggested on p. 87 would leave the historical error of the existing designation unaddressed and could contribute to a sense of historical designation fragmentation. Please consider revising this text to recommend that the existing NHS designation be amended both in terms of the geography it pertains to and its period of significance. Similar to The Forks National Historic Site, an amended NHS designation could comprehend thousands of years of human history in this central portion of Edmonton's river valley -- from ancient Indigenous use to the fur trade to the settlement period to the present. The City has already had preliminary discussions with the Historic Sites and Monuments Board about this approach. In an 9 Jul 2019 email, Board staff admitted that "the Board's interest in the 1950s was typical of that era, a Eurocentric focus on the fur trade story and, today, many of these traditional stories are being told in a broader, richer fashion. The Historic Sites and Monuments Board of Canada (HSMBC) has updated and expanded other older designations to provide more inclusive histories. On several occasions, these updates have also included a name change." The email encouraged us to submit an amendment application which we have not done yet. If your report were to call for an amendment to the existing designation, it would strengthen the case that the City makes to the Board.	Good strategy about the specific recommendation to incorporate along with Fort Edmonton III (albeit a revision) have incorporated!
68	Conservation Plan part 2	p. 88	Should read "including an isolated area of blue stain."	Noted and corrected, thanks.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

Consultant Responses to CP-9673 RPP AAPR PD01 - FPD (AS) Review

2020-06-30

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01	Historic Building Record Drawings (for all buildings)		Text/font size should be the same on each sheet for consistency. (eg. Drawing List, Hatch Legend, Symbols Legend, Dimensions, are too small and not legible etc.)	Noted, thanks.
02	Historic Building Record Drawings (for all buildings)		ROS111, Rossdale EPCOR Administration Building is noted on the "Site Plan Building List", please indicate that this building is not a part of this project.	Noted, this will be adjusted on the final set of Historic Building Record Drawings.
03	Boiler Hall Archival Photo Record		Boiler Hall-Photo Record. 'Company' is misspelled	Noted, thanks. To be corrected in final version.
04	Condition Mapping Drawings (for all buildings)		Text/font size should be the same on each sheet for consistency. Some text/notes are too small and not legible etc.)	Noted, thanks.
05	Condition Mapping Drawings (for all buildings)		*Spelling errors, please do a spell check on all drawings	Noted, thanks.
06	Condition Mapping Drawings (for all buildings)		Some Room Numbers should be moved to be legible. Some walls run right through the room numbers.	Noted, thanks. To be corrected in final version.
07	Drawings: H260, H261, H263, H557, H558 Boiler Hall		Text and Room numbers difficult to read in hatched areas.	Noted, thanks. To be corrected in final version.
08	Drawings: H251, H551 Pump House #2		Text and Room numbers difficult to read in hatched areas.	Noted, thanks. To be corrected in final version.
09	Condition Assessment-Switch House	p. 52	First sentence to be reworded	Noted, thanks.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
studio@the-mbac.ca
www.the-mbac.ca

100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3

t 403 261 9050
f 403 261 9054

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
10	Condition Assessment-Turbine Hall First paragraph, 2nd sentence	p. 23 (and page 32)	Confirm if a Gantry crane, it may be an overhead or bridge crane.	Confirmed, this is a gantry crane.
11	Condition Assessment-Turbine Hal 2.6.1 Introduc-tion: First paragraph	p. 51	First sentence to be reworded	Noted, thanks.
12	Condition Assessment-Boiler Hall 2.6.1 Introduc-tion: First paragraph	p. 58	First sentence to be reworded	Noted, thanks.
13	Condition As-sessment-Pump House #1		Page numbers missing	Noted, thanks. To be corrected in final version.
14	Condition As-sessment-Pump House #1	2.1	The Civil/Landscape section (description and photos) is focused on the LPP and not Pump House #1	Noted, thanks. To be corrected in final version.
15	Condition As-sessment-Pump House #1 2.6.1 Introduc-tion: First para-graph	p. 39	First sentence to be reworded	Noted, thanks.
16	Condition As-sessment-Pump House #2		Page numbers missing	Noted, thanks. To be corrected in final version.
17	Condition As-sessment-Pump House #2	2.1	The Civil/Landscape section (description and photos) is focused on the LPP and not Pump House #2	Noted, thanks. To be corrected in final version.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
18	Condition Assessment- Pump House #2 2.6.1 Introduction: First paragraph		First sentence to be reworded	Noted, thanks.
19	Condition Assessment- Pump House #2 2.6.5 third paragraph, first sentence & 2.6.6. first sentence		The structure is noted as in okay condition given its age. in 2.6.6, it is noted that the structure condition is poor to fair, should both sentences reflect the same structural condition?	Yes, this will updated in the final version.
20	Condition Assessment- ATCO Gas Building		Page numbers missing	Noted, thanks. To be corrected in final version.
21	Condition Assessment- ATCO Gas Building	2.1 p. 5-13	The Civil/Landscape section (description and photos) is focused on the LPP and not the ATCO Gas Building	Noted, thanks. To be corrected in final version.
22	Conservation Plan-Part 1	p. 22	Phase 3: Power Plant Rehabilitation- line up points A), B) & C) to the left	Noted, thanks. To be corrected in final version.
23	Conservation Plan-Part 1	Blank page	Blank page.	Noted, thanks. To be corrected in final version.
24	Conservation Plan-Part 1	p. 22	Phase 3: Power Plant Rehabilitation- line up points A), B) & C) to the left	Noted, thanks. To be corrected in final version.
25	Conservation Plan-Part 1	p. 32-33 Table	For Low Pressure Plant, maybe indicate it's a total of all three buildings	Noted, thanks. To be corrected in final version.
26	Conservation Plan-Part 1 First paragraph, 3rd sentence	p. 60	Confirm if a Gantry crane, it may be an overhead or bridge crane. (reference to Gantry also on pages 62, 63 & 74)	Confirmed, this is a gantry crane.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
27	Conservation Plan-Part 1	p. 151	Dates 1912-13 & 1908-09 need to be moved to the following page (152)	Cannot determine what this is referring to.
28	Conservation Plan-Part 2	p. 19 4.4.3.1	Reference to voids (for equipment & movement) mentioned twice.	Noted, thanks. To be corrected in final version.
29	Conservation Plan-Part 2	p. 20 4.4.3.4	ATCO Gas building - not to be included in Conservation Plan	Noted, thanks. To be corrected in final version.
30	Conservation Plan-Part 2	p. 26 4.5.1	Both Floor Plans are identical	Noted, thanks. To be corrected in final version.
31	Conservation Plan-Part 2	p. 27 4.5.1	Which floor is this plan for?	Title says BM/MN/02 as per Heritage Record.
32	Conservation Plan-Part 2	p. 28 4.5.1	Floor Plan section missing on Key BM-LLP Area, top section between Boiler and Turbine Halls	Do you mean the mezzanine? Yes, this has been purposefully excluded from illustration for legibility, covered in tables above.
33	Conservation Plan-Part 2	p. 30-33 4.5.2	Revise top Elevation Symbol	Noted, thanks. To be corrected in final version.
34	Conservation Plan-Part 2	p. 40 4.5.4	ATCO Gas building - not to be included in Conservation Plan	Noted, thanks. To be corrected in final version.
35	Conservation Plan-Part 2	p. 51 5.2.1	Note above table (@Bianca D. Water Treatment Plant… (what is this in reference to?)	This is an internal note. To be removed in final version.
36	Conservation Plan-Part 2	p. 53, 64	In the Conservation Plan Part 2, I noted that page 64 photo is a duplicate of the photo on page 53. (Michael's Comment)	Yes, same idea, implemented in different building
37	Conservation Plan-Part 2	p. 67 5.2.4	ATCO Gas building - not to be included in Conservation Plan	Noted, thanks. To be corrected in final version.
38	Conservation Plan-Part 2	p. 87	...including an isolated are..should be 'area', of blue stain	Noted, thanks. To be corrected in final version.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3
t 403 261 9050
f 403 261 9054
studio@the-mbac.ca
www.the-mbac.ca

Consultant Responses to CP-9673 RPP AAPR PD01 - Mechanical PRT Review

2020-06-30

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01			Atco Building, Will old cast iron drains be scoped with a camera, inside and outside to assess condition?	Further investigation of the sub-surface drainage will be recommended. It is highly likely this piping will be replaced when any further re-purposing is ready to move ahead since it is currently connected to an outfall to the river.
02			Pumphouse #2 - How will existing water intakes and wall penetrations be permanently sealed to prevent leakage?	We believe this scope will be largely civil and structural work, not mechanical. This will be developed further at the design stage.
03			Pumphouse #2 - Sump pumps and the lines they are tied into should be scoped with a camera to assess condition.	Further investigation of the sub-surface drainage will be recommended.
04			Pumphouse #1 - Will river water Intakes be permanently sealed to prevent water leakage?	We believe this scope will be largely civil and structural work, not mechanical. This will be developed further at the design stage.
05			Pumphouse #1 - Will an exhaust system be Installed to remove potentially contaminated air from lower levels and provide fresh air?	No consideration has been given to providing ventilation systems as part of the preservation of the building. We understand that maintaining these pumps will require access and may or may not be considered a enclosed space due to their location. That evaluation will need to be completed by the City's forces based on their work practices. We can recommend temporary ventilation be part of the work procedure for accessing and maintaining the pumps.
06			Low Pressure Plant - Who is currently paying for and maintaining the temporary propane/glycol boiler system?	I believe that EPCOR is currently paying for and maintaining the system through a contractor or rental company.
07			- Is there any consideration to tie the boiler into existing Natural gas on site?	None was given for short term preservation of the buildings, since a new gas service would be required on the site. Adding a service would be ideal however budget constraints will likely not allow for it.
08			- Who is currently maintaining existing sump pumps as they appear to be confined entry?	I believe that EPCOR is currently paying for and maintaining the system through a contractor or rental company.

the marc boutin architectural collaborative inc.
marc boutin, Architect, AAA, FRAIC, RCA, Principal
studio@the-mbac.ca
www.the-mbac.ca

100 - 205 9th avenue southeast
calgary alberta canada T2G 0R3

t 403 261 9050
f 403 261 9054

Consultant Responses to CP-9673 RPP AAPR PD01 - Mechanical Technical Review

2020-09-15

COMMENT #	REFERENCE	PAGE	COMMENT	CONSULTANT'S RESPONSE
01	ROS105 Switch House 2.4.3 Low Pressure Plant Plumbing Systems		I would not recommend using existing degraded piping as a sleeve for new piping. If the sleeve is degraded and is expected to continue to degrade, then it is not going to be effective, and would likely cause more problems than benefits.	Understood. For the current report we will note the piping as to be investigated further but an unlikely option based on further possible degradation of the existing pipe.
02	ROS105 Switch House 2.4.9 Ventilation and Humidification		Is ventilation needed for dehumidification in the Low Pressure Plant?	No need for dehumidifcation was noted in the low pressure plant. Degradation to the envelope seems to be primarily due to infiltration of rain through storm drainage piping. The infiltration rate into the building is also likely sufficient to prevent humidity problems during it's unoccupied period. As the envelope is improved and openings sealed this may become a requirement.
03	ROS108 Pump House 1 2.4.7 Ventilation		Notwithstanding the fact that there is no code requirement for occupant ventilation, would some ventilation not be beneficial for managing humidity, volatile contaminants, odours, etc.?	No need for dehumidifcation as a preservation method was noted at this time. The higher priority is the proper sealing of intake valves which will largely solve any humidity/odour problems.